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ORCHIDACEAE PERUVIANAE V

BY

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THE FOLLOWING TREATISE, the fifth of the series describing novelties in the orchid flora of Peru, discusses eighteen new species and six new varieties.

Epidendrum aquaticoides *C. Schweinfurth sp. nov.*

Herba epiphytica, robusta. Caulis crassus, vaginis tubulatis imbricantibus omnino celatus. Folia numerosa, disticha, ovato-lanceolata vel ovato-oblonga, subacuta et mucronata, basi amplexentia, suberecta. Inflorescentia terminalis, paniculata, arcuato-flexuosa, cum ramulis leviter fractiflexis. Flores parvi, carnosii, aurantiaco-rubri. Sepalum dorsale elliptico-ovatum, subobtusum. Sepala lateralalia late et oblique ovata, acuta. Petala linearia, obtusa, sepalo dorsali breviora. Labellum columnae valde adnatum; lamina concavo-conduplicata, simplex, perlate ovata, apice obtusa, basi profunde cordata; discus basi callis duobus parvis ornatus. Columna crassa, ad apicem dilatata, utrinque oblique auriculata.

Plant epiphytic, robust, up to 60 cm. or more high including the inflorescence. Stem stout, with two short ascending branches near the base, entirely concealed by tubular, striate, scabrous, imbricating sheaths which are leaf-bearing except at the base of the stem and branches. Leaves numerous, distichous, ovate-lanceolate or ovate-oblong, subacute and mucronate at the apex, clasping at

base, up to 8.8 cm. long and 2 cm. wide (often much smaller), coriaceous, rigidly suberect, more or less imbricating in the dried specimen. Inflorescence terminal, arcuate-flexuous, about 16 cm. long, paniculate with ascending few- to several-flowered branches; rachis more or less fractiflex. Floral bracts spreading, ovate, acuminate, concave, slightly shorter than the pedicellate ovary. Flowers small, rather loose, numerous, fleshy, orange-red. Dorsal sepal elliptic-ovate, subobtusate, about 8.2 mm. long and 5 mm. wide, 3-nerved. Lateral sepals obliquely and broadly ovate, acute, about 9.5 mm. long and 6 mm. wide, 3-nerved. Petals linear or oblanceolate-linear, obtuse, 1-nerved, about 7.8 mm. long. Lip adnate to the column nearly to its apex, slightly exceeding the lateral sepals; lamina concave-conduplicate and surrounding the apex of the column in natural position, simple, broadly ovate-cordate when expanded, deeply cordate at base, obtuse at apex, about 6.3 mm. long in the center and almost 10 mm. wide if forcibly expanded; disc with a pair of small fleshy complanate calli at base. Column stout, strongly dilated upward in front, terminating on each side in a very oblique transverse retuse auricle, about 5.2 mm. long at the back.

Epidendrum aquaticoides is very suggestive of the Brazilian *E. aquaticum* but differs in having a stout subsimple stem, numerous leaves, almost twice larger orange-red (instead of greenish or yellowish) flowers and the disc of the lip bicallose at base.

Cuzco: Prov. Urubamba, on trail from Puyupata to Sayacmarca, at 3600 meters altitude, August 5, 1942, *C. Vargas 2906* (TYPE in Herb. Ames No. 61883).

***Epidendrum aquaticoides* C. Schweinfurth var. *pusillum* C. Schweinfurth var. nov.**

Herba satis ramosa, cauli graciliore, et foliis parvis

minute erosis et racemo paucifloro et sepalis quinquener-viis et labello crassiore a typo differt.

Plant apparently separable from the type by its slender branched stem (with branches ascending or suberect), by its small leaves (up to 2.3 cm. long and 6 mm. wide) with finely erose margins, by the small simply racemose few- (up to 6-) flowered inflorescences, by the distinctly 5-nerved sepals and by the more fleshy lip.

Cuzco: Prov. Urubamba, on trail from Puyupata to Sayamarca, at 3600 meters altitude, epiphytic, flowers orange-red, August 5, 1942, *Vargas 2894* (TYPE in Herb. Ames No. 61885).

***Epidendrum birostratum* C. Schweinfurth sp. nov.**

Herba epiphytica, basi lateraliter pauciramosa. Caulis vaginis tubulatis arctis supra foliiferis omnino celatus. Folia disticha, adscendentia, oblonga vel lineari-oblonga, subacuta, basi amplexentia. Inflorescentia terminalis, racemosa, pendula, laxius pluriflora. Flores satis parvi, carnosii, segmentis late patentibus. Sepalum dorsale elliptico-oblongum, acutum. Sepala lateralia ovato-lanceolata, longe mucronata, concava. Petala obovato-elliptica vel late spathulato-cuneata, subobtusata. Labellum columnae valde adnatum; lamina trilobata, basi cordata; lobi laterales oblique rotundato-dolabriformes; lobus medius porrectus, subquadratus, apice truncato tridentato. Columna brevis, crassa.

Plant epiphytic, over 56 cm. high (incomplete in my specimen). Roots fibrous, glabrous, stout, whitish, simple. Stems with a few strict short branches in the lower portion, entirely concealed by close, tubular, imbricating sheaths which become scarious and evanescent in the lower portion and are leaf-bearing above. Leaves numerous, distichous, ascending, oblong or linear-oblong, subacute with a caducous apicule, clasping at base, up to 12 cm. long and 1.3 cm. wide, subcoriaceous, with the margins minutely cartilaginous-crenulate. Inflorescence ter-

minal, nodding; peduncle about 3.5 cm. long, sheathed at base by two small imbricating spathes; raceme about 10 cm. long. Floral bracts triangular-lanceolate or deltoid, acuminate, up to 5.5 mm. long. Flowers fourteen, loose, rather small, with widely spreading segments. Sepals fleshy. Dorsal sepal elliptic-oblong, acute with a dorsal conical mucro, up to 12.5 mm. long and 5.1 mm. wide. Lateral sepals ovate-lanceolate, concave, oblique, acute, with a long fleshy dorsally erose cusp, up to 18 mm. long and about 6 mm. wide. Petals obovate-elliptic or broadly spatulate-cuneate, subobtuse, up to 12 mm. long and 5.8 mm. wide, thinner than the sepals, minutely erose on the irregular margins, 3-nerved with the lateral nerves branching. Lip adnate to the column nearly to its apex, distinctly shorter than the lateral sepals, about 11 mm. wide across the lateral lobes when expanded; lateral lobes rounded-dolabriform, oblique, cordate at base, with the rounded outer margins minutely erose and the usually entire anterior margin nearly straight; mid-lobe porrect, subequal to the lateral lobes, subquadrate, slightly broader toward the apex, abruptly truncate in front, sinuately 3-dentate with narrow triangular teeth of which the middle tooth is slightly longer, fleshy-thickened and recurved; disc mostly occupied in the center by a large subquadrate-ovate depressed fleshy callus. Column very short and stout, adnate to the center of the lateral sepals up to about its middle, terminating in an oblique transverse auricle on each side, about 7.7 mm. long in the middle of the back.

Epidendrum birostratum recalls *E. Klotzscheanum* Reichb.f. vegetatively, but the awned lateral sepals and the sinuately tridentate mid-lobe of the lip appear to be unique.

Cuzco: Prov. Urubamba, Puyupata-Tuncapata, at 3200 meters altitude, epiphyte in wet forest, August 6, 1942, *C. Vargas 2927* (TYPE in Herb. Ames No. 61745).

Epidendrum blepharichilum Kränzlin var. **ma-
jus** C. Schweinfurth var. nov.

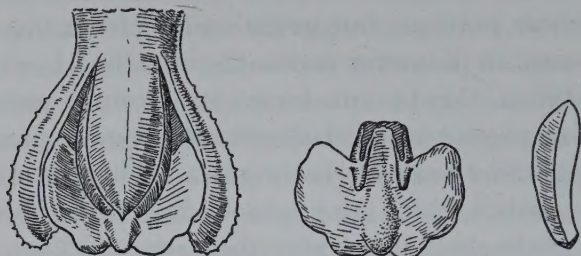
Herba habitu robustiore et foliis duplo latioribus et floribus duplo majoribus a specie differt.

Stems loosely branching, entirely concealed by long tubular sheaths which are scarious and without leaves in the lower portions but green and leaf-bearing above, up to 6 mm. in diameter across the sheaths. Leaves lanceolate-linear, 11–14 cm. long, 12–14 mm. wide, narrowed to an acute point. Inflorescence loosely paniculate with three strict branches issuing from elongate-infundibuliform spathes which are produced into linear foliaceous blades. Pedicellate ovary spreading, up to 17 mm. long. Flowers rather fleshy. Dorsal sepal oblanceolate-elliptic, sharply acute, 14 mm. long, about 4.3 mm. wide above, 5-nerved. Lateral sepals obliquely elliptic-lanceolate, 15 mm. long and 4.6 mm. wide, 5-nerved, with a shortly acuminate fleshy apex. Petals oblanceolate-linear, acute, about 13 mm. long and 1.5 mm. wide, 1-nerved. Lip adnate to the column nearly to the apex; lamina replicate in natural position, deeply cordate at the base, suborbicular in outline, irregularly fringed throughout, retuse at the apex with a fleshy recurved apicule, about 13 mm. in greatest length and almost equally wide, slightly constricted (and thus trilobulate) above; disc bicallose at base with the longitudinal central portion fleshy-thickened. Column strongly dilated above, very oblique at base, about 10 mm. long.

APURIMAC: Prov. Abancay, Ampuy, at 3200 meters altitude, "epiphytic on an old Podocarpus . . . stems over 1 m: sepals and 2 slender petals reddish olivaceous, greener at the tips; the fringed lip light lavender rose; racemes pendent," February 12, 1939, *H. E. Stork, O. B. Horton & C. Vargas 10611* (TYPE in Herb. Field Mus. No. 1051131).—A collection of a fruiting plant intermediate in size between the species and the variety showing coarse fibrous roots bears the following data: Huánuco: Cani, seven miles northeast of Mito, at about 2600 meters altitude, April 16–26, 1923, *J. Francis Macbride 3461*.

Epidendrum capitellatum C. Schweinfurth sp. nov.

Herba mediocris, a basi radicans ramosa. Caules patentēs, foliosi, vaginis laxis infundibuliformibus maxima pro parte obtekti. Folia numerosa, disticha, late patentia, ovato-lanceolata vel oblongo-ovata, acuta, basi am-



Epidendrum capitellatum, flower from above, lip expanded and petal, three times natural size.

plectentia. Inflorescentia terminalis, breviter pedunculata; racemus subglobosus, dense multiflorus. Flores carnosissimi, parvi, rigidi. Sepalum dorsale oblongo-ovatum, acutum, profunde concavum. Sepala lateralia oblique ovata, acuta, carina prominenti plusminusve denticulata extus ornata. Petala lineari-oblancheolata, acuta vel subacuta. Labellum columnae valde adnatum; lamina concavo-conduplicata, extensa ovato-reniformis, apice truncato leviter retusa, super medium saepissime subtrilobata, basi cordata; discus basi bicallosus. Columna parva, crassa.

Plant rather small, with a branching rhizome. Roots fibrous, flexuous, glabrous. Stems spreading, leafy, up to 19 cm. tall to the inflorescence, mostly concealed by loose infundibuliform sheaths which are produced into leaf-blades. Leaves numerous, distichous, widely spreading, ovate-lanceolate or oblong-ovate, up to 5.1 cm. long and 1.6 cm. wide (the uppermost and lowermost blades smaller and ovate), acute, deeply clasping, with the margins cartilaginous-irregular to erose-crenulate near the apex, coriaceous. Peduncle short, provided with one or

two widely separated conduplicate recurved bracts which are up to 2.1 cm. long. Inflorescence terminal, capitate or subglobose, densely many-flowered, about 1.5 cm. long and broad. Flowers small, very fleshy, rigid, subglobose, green. Dorsal sepal oblong-ovate, acute, deeply concave, 7–8 mm. long, 3–3.7 mm. wide. Lateral sepals obliquely ovate, acute, concave, with a prominent more or less denticulate keel without, 7–8.5 mm. long, 4.5 mm. wide. Petals obliquely linear-oblongate, falcate, acute or subacute, 1-nerved, 6.1–7 mm. long and 2.2 mm. wide. Lip strongly adnate to the column; lamina concave-conduplicate in natural position, ovate-reniform in outline when forcibly expanded, deeply cordate at base, subtrilobed toward the apex, more or less retuse and apiculate at the truncate apex, 4.5–6 mm. long from a basal auricle to the apex, 6–7.6 mm. wide when expanded, with the rounded anterior sides lobulate or crenate; disc bicallose at base. Column very short and stout, 3.8–4.9 mm. long, truncate at the apex.

Epidendrum capitellatum seems to have no near allies. The specific name is in allusion to the capitate inflorescence.

HUANUCO: Cani, seven miles northeast of Mito, at about 2600 meters altitude, "in clumps in trees," April 16–26, 1923, *J. Francis Macbride* 3463 (TYPE in Herb. Field Mus. No. 534538; ISOTYPE in Herb. Ames No. 61587).

***Epidendrum carnosiflorum* C. Schweinfurth sp. nov.**

Herba epiphytica, irregulariter ramosa. Caules vaginis tubulatis omnino obtecti. Folia disticha, oblongo-linearia, minora, apiculata, basi sessili amplexentia, valde coriacea. Racemi ramorum apice terminales, saepissime arcuati vel nutantes, laxe pluriflori, rhachide leviter fractiflexa. Bracteae prominentes, late patentes, concavo-conduplicatae, late ovatae ut videtur. Flos carnosus. Sepalum dorsale

lanceolatum, acuminatum, concavum. Sepala lateralialia oblique lanceolata, valde acuminata, concava vel navicularia. Petala linearia, a basi reflexa. Labellum columnae valde adnatum; lamina infra trilobata, basi cordato-truncata; lobi laterales parvi, erecti, semiobovati; lobus medius multo major, anguste triangularis, multo incrassatus, acuminatus. Columna parva, crassa.

Plant epiphytic, branching (incomplete in my specimen). Roots fibrous, glabrous. Stems irregularly branched, entirely enveloped by tubular-cylindric minutely rugose sheaths which are leaf-bearing except near the base, 5 mm. or less in diameter. Leaves distichous, oblong-linear, acute with an apiculate apex, slightly narrowed at the clasping base, up to 5.9 cm. long and 8 mm. wide, thickly coriaceous, with the mid-nerve prominently carinate beneath. Inflorescences terminal at the tip of the branches, racemose, suberect to nodding, about 9.5 cm. or less long, very loosely several- (up to 10-) flowered almost to the base, with the rachis more or less fractiflex. Floral bracts conspicuous, horizontally spreading, concave-conduplicate, ovate in outline, apiculate at the rounded to acute apex, up to 7 mm. long. Flowers fleshy (on the summit of rather mature ovaries in my specimen). Dorsal sepal lanceolate, acuminate to an acute apex, concave, about 10 mm. long and 3.5 mm. wide. Lateral sepals obliquely lanceolate or ovate-lanceolate, long-acuminate to an acute apex, concave below, navicular above, about 11 mm. long and 4.6 mm. wide. Petals linear, obtuse, abruptly reflexed at the base, lightly sigmoid, about 8.7 mm. long and 1 mm. wide, 1-nerved. Lip adnate to the column nearly to its apex; lamina tubular-involute, broadly cordate-truncate at the base, distinctly 3-lobed near the base, about 8.2 mm. long; lateral lobes erect and embracing the apex of the column, small, semiobovate with a somewhat flattened outer mar-

gin; mid-lobe much larger, narrowly triangular, acuminate to a subacute apex, very fleshy, concave below. Column very short and stout, about 3.3 mm. long at the back, extended on each side into a very oblique tooth.

Epidendrum carnosiflorum has apparently as its nearest ally the Central American *E. anoglossoides* A. & S., but differs in having laxer racemes, broader sepals, a sharply 3-lobed lip, etc. Its lip recalls that of *E. grammatoglossum* Reichb. f. and *E. Pavonianum* Reichb. f., but it is vegetatively very different from those species.

JUNIN: Pichis Trail, Eneñas, at 1700 meters altitude, epiphyte in open sphagnum swamp, July 1, 1929, *E.P. Killip & A.C. Smith 25705* (TYPE in U.S. Nat. Herb. No. 1359825).

***Epidendrum elatum* C. Schweinfurth sp. nov.**

Herba magna, robusta, elata. Caulis crassus, cum ramis oppositifoliis, vaginis tubulari-cylindraceis omnino obtectus. Folia disticha, ovato-vel oblongo-vel elliptico-lanceolata, apice obtusa vel rotundata, basi amplexentia. Racemi terminales, arcuati vel nutantes, usque ad basim dense multiflori. Ovarium pedicellatum elongatum, bracteam lineari-lanceolatam multo superans. Flores mediocres, virides, carnosii. Sepalum dorsale oblanceolato-oblongum, obtusum, apice dorso incrassatum. Sepala lateralibus obliquissime oblongo-oblanceolata, acuta, apice dorso multo incrassata. Petala oblique spathulato-linearibus, obtusa vel truncata. Labellum columnae valde adnatum; lamina profunde trilobata; lobi laterales parvi, patentes, dolabriliformes vel rotundato-ovati; lobus medius multo major, subquadrato-ovatus, apiculatus; discus basi bicallosus et lineis tribus antice ornatus. Columna generis.

Plant robust (lower part lacking in my specimen), 3 m. high according to the collector's notes. Stem stout, up to 1 cm. in diameter, with a short branch opposite each leaf, entirely concealed by tubular-cylindric minute-

ly rugose sheaths which are leaf-bearing except through the lower portion of the branches. Leaves distichous, ovate-, oblong- or elliptic-lanceolate, up to 16 cm. long and 4 cm. wide, obtuse to rounded at the (commonly incomplete) apex, clasping by a sessile base, chartaceous, the leaves on the lower portions of the branches much smaller. Racemes terminal, arcuate or nodding, densely many-flowered almost to the base, with the rachis up to 12 cm. long (incomplete in my specimen). Floral bracts linear-lanceolate, erect-spreading, much shorter than the elongate pedicelled ovary which is gradually dilated above and up to 4.9 cm. long. Flowers fleshy, green. Dorsal sepal oblanceolate-oblong, obtuse, 18–19.5 mm. long and 4.6 mm. wide, much thickened dorsally at the apex, 3- or indistinctly 5-nerved. Lateral sepals very obliquely oblong-oblanceolate, 18.8–21 mm. long, 5.7–6.5 mm. wide above, dorsally bluntly carinate-thickened and mucronate at the acute apex, 4- to 5-nerved. Petals obliquely spatulate-linear, obliquely truncate or obtuse at the apex, 17–19 mm. long, 3.7–4 mm. wide when expanded, with the upper margins minutely erose and revolute in natural position, 1-nerved throughout. Lip adnate to the column nearly to its apex; lamina sharply 3-lobed, deeply cordate at base, about 7.3 mm. long in the middle and 10 mm. wide across the lateral lobes; lateral lobes small, spreading, dolabriform or obliquely round-ovate with the exterior margin truncate or broadly rounded; mid-lobe much larger, subquadrate-ovate, bluntly apiculate, 5.2 mm. long and about equally wide; disc at base bicallose and in front with three fleshy lines of which the middle one is longer and extends to the apex. Column about 15 mm. long, slightly dilated toward the apex.

Epidendrum elatum differs from *E. raphidophorum* Lindl. in lacking imbricating spathes subtending the inflorescence.

AYACUCHO: Prov. Huanta, Choimacota Valley, at 3000 meters altitude, in "evergreen mountain forest," February 28–March 10, 1926, *A. Weberbauer* 7536 (TYPE in Herb. Field Mus. No. 562446; ISOTYPE in Herb. Ames No. 61558).

***Epidendrum latisegmentum* C. Schweinfurth sp. nov.**

Herba magna, epiphytica, laxa. Caulis elongatus, arcuatus, ramis cum strictis, vaginis tubulatis evanidis omnino tectus. Folia in caulis parte superiore, elliptico-lanceolata, acuminata, pauca. Inflorescentia brevis, racemosa, pauciflora. Flores magni, flavo-virides. Sepalum dorsale ovali-obovatum, subacutum. Sepala lateralibus oblique obovato-ovalia, acuta. Petala cuneato-spathulata, obtusa vel subacuta. Labellum columnae valde adnatum; lamina simplex, obovato-reniformis, carnosa, omnino dense cellulari-papillosa. Columna abbreviata, crassa, sursum dilatata. Pollinia quattuor, valde complanata.

Plant rather large, lax, epiphytic. Roots fibrous, stout, elongate, rigid. Stem elongate, arcuate, with scattering strict or appressed branches, apparently wholly concealed by close tubular sheaths which are scarious and evanescent below and leaf-bearing above. Leaves commonly confined to the upper part of the stems or branches, distichous, very loose below but approximate above, elliptic-lanceolate, spreading, acuminate, cuneate at the clasping base, up to 17 cm. long (apex incomplete in my specimen) and 3 cm. wide, the lower blades much smaller, apparently four in number, submembranaceous. Inflorescence terminal, racemose, apparently 5-flowered (broken in my specimen), subtended by a short acuminate conduplicate spathe which is about 13 mm. long. Flowers large, yellow-green. Dorsal sepal oval-obovate, about 19 mm. long and 13 mm. wide, subacute, 6-nerved (the lateral nerve branching on one side). Lateral sepals obliquely obovate-oval, acute, about 21 mm. long and 15 mm. wide, 7- to

8-nerved. Petals cuneate-spatulate, obtuse or subacute, about 19 mm. long and 11 mm. wide, 5-nerved. Lip adnate to the column nearly to its apex; lamina simple, obovate-reniform, fleshy, densely cellular-papillose on both surfaces, with the truncate anterior margin lightly retuse (more markedly so in the very center), about 16.5 mm. in greatest length and 25 mm. wide, remotely bicallose at base. Column abbreviated, very stout, dilated upward, semiorbicular-indented in the middle of the apex. Pollinia four, strongly complanate, obliquely semiglobose.

Epidendrum latisegmentum appears to lack South American allies. It recalls the Central American *E. Brenesii* Schltr., but differs in its longer leaves and larger flowers. In habit it recalls *E. jamaicense* Lindl., but has larger flowers, dissimilar petals and a densely papillose lip.

LORETO: Pumayacu, between Balsapuerto and Moyobamba, at 600 to 1200 meters altitude, epiphyte in forest, August–September 1933, G. Klug 0.9 (TYPE in Herb. Ames No. 61550).

***Epidendrum liguliferum* C. Schweinfurth sp. nov.**

Herba elata. Caulis laxis, plus minusve flexuosus, in parte superiore unico cum ramo, supra foliosus. Folia disticha, lanceolata vel elliptico-lanceolata vel oblongo-lanceolata, saepissime acuminata, amplexantia. Racemus terminalis, arcuatus, laxe pluriflorus, bracteis anguste lanceolatis conspicuis. Florum segmenta late patentia vel reflexa. Sepalum dorsale obovato-oblongum, acutum. Sepala lateralibus oblique oblongo-obovata, acuta. Petala spatulato-linearibus, obtusa. Labellum columnae valde adnatum; lamina expansa subquadrato-reniformis, apice truncato trilobulata; lobus laterales semiorbiculares; lobus medius transversus, oblongus vel reniformis; discus basicallis duobus ligulatis liberis ornatus. Columna generis.

Plant tall. Roots fibrous, flexuous, glabrous. Stem lax, more or less flexuous or fractiflex, often with a single

elongate branch above, leafy above, entirely or mostly concealed by tubular sheaths which are close scarious and evanescent below and leaf-bearing through the upper portion of the stem. Leaves distichous, lanceolate or elliptic-lanceolate (rarely oblong-lanceolate), up to 12.5 cm. long and 2 cm. wide (the lower blades much smaller), minutely erose at the acute or more often acuminate apex, sessile, amplexicaul, spreading, subcoriaceous. Raceme terminal, arcuate, loosely several-flowered (apparently incomplete in my specimen). Peduncle about 4.2 cm. long, mostly concealed by a slender tubular spathe with an oblong-lanceolate acute free portion. Floral bracts conspicuous, narrowly triangular-lanceolate, spreading. Flowers medium-sized, greenish white, with spreading or reflexed segments. Dorsal sepal obovate-oblong, acute, about 16.7 mm. long and 6 mm. wide, 5-nerved. Lateral sepals obliquely oblong-obovate, sharply acute, lightly carinate especially above, about 15 mm. long and 6 mm. wide. Petals spatulate-linear, obtuse, about 16 mm. long and 3 mm. wide, 3-nerved, with the upper margins minutely erose. Lip adnate to the column nearly to its apex; lamina convex in natural position, subquadrate-reniform when expanded, lightly cordate at base, shallowly but distinctly 3-lobed at the truncate apex, about 8.9 mm. long from the base to the tip of a protuberant side of the mid-lobe and 17.9 mm. wide; lateral lobes semiorbicular or rounded-dolabriform, with the outer margins irregular; mid-lobe transversely oblong or reniform, shallowly retuse, 1.2-2 mm. long and 6.4-8.2 mm. wide; disc at base with a pair of prominent spreading free ligulate calli which are about 4 mm. long and with a fleshy-thickened median line. Column conspicuous, abruptly dilated above in front, produced on each side into an obliquely subquadrate auricle, about 12 mm. in greatest length.

Epidendrum liguliferum is related to the Brazilian *E. Cooperianum* Batem., but has dissimilar leaves and form of lip. It differs from the Bolivian *E. Evelynae* Reichb.f. in having spatulate-linear (not linear) petals and in having elongate (not small and rounded) calli at the base of the lip. The flower is apparently similar to that of the Brazilian *E. Burgeri* Schltr.

HUANUCO: Cani, seven miles northeast of Mito, at about 2600 meters altitude, "floor of dense stream-wood," April 16-26, 1923, *J. Francis Macbride 3543* (TYPE in Herb. Field Mus. No. 534618; Iso-TYPE in Herb. Ames No. 61554).

***Epidendrum Macbridei* C. Schweinfurth sp. nov.**

Herba epiphytica, gracilis. Rhizoma abbreviatum. Caules approximati, plus minusve flexuosi, vaginis tubulatis vel infundibuliformibus tecti. Folia disticha, elliptico-lanceolata, acuminata, basi amplexentia, submembranacea. Inflorescentia terminalis, virgato-paniculata, laxe pluriflora. Flores parvi, segmentis patentibus. Sepala carnea. Sepalum dorsale oblongo-oblancheolatum, subacutum, leviter concavum. Sepala lateralia oblique oblongo-oblancheolata, acuta et mucronata, leviter concava. Petala filiformia, sursum paulo dilatata. Labellum columnae valde adnatum; lamina flabellato-subquadrata, basi cordata, antice trilobata; lobi laterales oblique ovato-dolabriliformes; lobus medius a basi cuneata transverse oblongus, antice late truncatus, medio apiculatus, haud exsertus. Columna supra dilatata, utrinque in auriculas bidentatas extensa.

Plant epiphytic, slender, about 29 cm. or less in height. Roots fibrous, flexuous, glabrous. Rhizome abbreviated, creeping. Stems approximate, spreading, more or less flexuous, entirely invested by infundibuliform or tubular sheaths which are evanescent (and often absent) below and leaf-bearing above, about 20.5 cm. or less long. Leaves distichous, spreading, elliptic-lanceolate (rarely

elliptic-linear), acuminate, cuneate at the clasping base, up to 10.3 cm. long and 1.75 cm. wide, (the uppermost and lower blades much smaller), ten or less, submembranaceous. Inflorescence a short virgate few-branched panicle which is sheathed at the base and surpassed by the leaves, with branches very loosely 7-flowered or less. Flowers small, with spreading segments, greenish white. Sepals fleshy. Dorsal sepal oblong-ob lanceolate, about 8.5 mm. long and 3 mm. wide, subacute, 4- to 5-nerved, lightly concave. Lateral sepals obliquely oblong-ob lanceolate, acute with a dorsal mucro, 5-nerved, about 9 mm. long and 3.1 mm. wide, lightly concave. Petals filiform, slightly broader toward the apex, obtuse or subacute, about 8 mm. long and 0.75 mm. wide, 1-nerved. Lip adnate to the column nearly to its apex; lamina flabellate-subquadrate in outline, cordate at base, 3-lobed in front, about 3 mm. in greatest length and 5 mm. across the lateral lobes; lateral lobes obliquely ovate-dolabriform, spreading, with the outer margins lightly emarginate below the middle; mid-lobe smaller than the lateral lobes and not exceeding them in front, transversely oblong from a cuneate base, broadly truncate at the apex with a small triangular apicule in the middle; disc adorned throughout the center with a large oblong-ovate fleshy callus which is acute, lightly 3-lobulate and bisulcate with furrows converging toward the base. Column dilated above in front, extended on each side into a subquadrate bilobed auricle, about 4 mm. long on the posterior surface and 6 mm. long in front to the apex of an auricle. Pollinia four, compressed, the outer pair semilunate in outline, the inner pair obliquely slender-pyriform.

Epidendrum Macbridei seems closely similar to *E. parviflorum* Ruiz & Pav., but differs in having much larger flowers and a dissimilar lip.

HUANUCO: Pampayaco (Pampayacu), Hacienda at mouth of Río

Chinchao, at about 1070 meters altitude, July 19-25, 1923, *J. Francis Macbride 5081* (TYPE in Herb. Field Mus. No. 536128; ISOTYPE in Herb. Ames No. 61588).

***Epidendrum magnicallosum* C. Schweinfurth sp. nov.**

Herba saepe elata et gracilis. Rhizoma abbreviatum. Caules approximati, a basi gracili sensim leviter dilatati, apice unifoliati. Folium strictum, lanceolato-lineare, acuminatum, coriaceum, rigidum. Inflorescentia elongata, gracilis, ramis remotis brevibus supra praedita. Flos parvus. Sepalum dorsale ovato-ovale. Sepala lateralialia similia, obliqua. Petala cuneato-obovata. Labellum columnae valde adnatum; lamina simplex, suborbiculari-obovata, antice late rotundata; discus callo magno quinquelobato acuto praeditus. Columna perbrevis. Ovarium apice cum vesicula.

Plant epiphytic, apparently very variable vegetatively. Rhizome creeping, abbreviated. Roots fibrous, flexuous, numerous. Stems approximate, up to 16.3 cm. high, monophyllous at the apex, from a slender base gradually slightly dilated above, several-jointed, entirely concealed by several close imbricating tubular sheaths which are evanescent in anthesis, tuberous-thickened at the very base. Leaf lanceolate-linear, acuminate, narrowed to a clasping base, about 20.5 cm. or less long (incomplete in my specimen), up to 1.2 cm. wide, coriaceous, rigidly suberect. Inflorescence terminal, slender, elongate, entirely clothed by close tubular evanescent sheaths, up to 30.4 cm. long (incomplete in my specimen), remotely provided with several short strict few-flowered branches or clusters of branches on the upper portion, as in *E. anceps* Jacq. Flower small, cream-colored, rather fleshy. Dorsal sepal ovate-oval, abruptly acute, about 7.5 mm. long and 5 mm. wide, 6- to 7-nerved. Lateral sepals similar, obliquely ovate-oval, acute, dorsally carinate

above, about 6.9 mm. long and 4.8 mm. wide, 9-nerved at the base. Petals cuneate-obovate, rounded or subacute at the apex, about 6.9 mm. long and 3.8 mm. wide above, 1-nerved or indistinctly 3-nerved. Lip adnate to the column nearly to its apex; lamina simple, suborbicular-obovate, minutely retuse and apiculate at the broadly rounded apex, about 5.4 mm. in greatest length and 5.9 mm. wide above, the disc being mostly occupied by a large acute subquadrate-ovate 5-lobed concave callus. Column stout, abbreviated, about 2 mm. long. Ovary with a small subglobose vesicle at its summit at the junction with the lateral sepals.

Another collection, *G. Klug 984*, consists of three small plants which are very dissimilar in appearance but the solitary flower examined is nearly identical with that of typical *E. magnicallosum*. Its characters are as follows. Plant up to 9.8 cm. high. Stem up to 2 cm. high, similarly dilated upward and invested by close sheaths. Leaf solitary, apical, linear-lanceolate, up to 7.9 cm. long and 6 mm. wide, acuminate. Inflorescence abbreviated, few-flowered, incomplete in my specimen. Flower white and lilac. Dorsal sepal ovate-oval, subacute, about 8.5 mm. long and 5 mm. wide. Lateral sepals similar, strongly connate almost to the middle, about 7.5 mm. long and 4.5 mm. wide. Petals cuneate-spatulate, abruptly acute, about 7.5 mm. long and 3.9 mm. wide above. Lamina of lip suborbicular-obovate, about 5.8 mm. long and 5.6 mm. wide, minutely apiculate at the broadly rounded apex, with a similar large 5-lobulate callus. Column about 2 mm. long. Vesicle on ovary more prominent than in the type.

There appear to be no close allies to this species. *Epidendrum Aloisii* Schltr., while very dissimilar vegetatively, has a somewhat similar lip.

LORETO: Vicinity of Iquitos, at 100 meters altitude, epiphyte, flow-

ers cream-colored, July 1937, *G. Klug 10117* (TYPE in Herb. Ames No. 61552); Mishuyacu, near Iquitos, at 100 meters altitude, in forest, flowers white and lilac, February–March 1930, *Klug 984*.

***Epidendrum microtos Reichenbach filius* var. *grandiflorum* C. Schweinfurth** var. nov.

Herba pseudobulbosa, foliis angustissime linearibus, floribus satis majoribus et petalis minus spathulatis subacutis et labelli lobo medio emarginato a specie differt.

Plant epiphytic, variable vegetatively. Pseudobulbs ovoid, concealed and surpassed by the fibres of evanescent sheaths, up to 5.2 cm. high, two- to three-leaved at the summit. Leaves very narrowly linear, up to 50 cm. long and 7.5 mm. wide, acute, rigidly coriaceous, often conduplicate in the dried specimen. Inflorescence either racemose or loosely paniculate, subequaling or shorter than the leaves, with the branches of the peduncle and the pedicellate ovary densely scabrous or verruculose. Flowers medium-sized, with spreading segments, rather fleshy, dark rose or carmine. Dorsal sepal oblong-ob lanceolate, obtuse or subacute, about 1.7 cm. long and 5.5 mm. wide. Lateral sepals similar, obliquely oblanceolate-oblong, subacute, up to 1.9 cm. long and 6.5 mm. wide. Petals oblanceolate to subspatulate, subacute, about 1.65 cm. long, 5–6 mm. wide. Lip nearly free from the column; lamina cuneate at base, emarginate at the apex, sharply 3-lobed; lateral lobes triangular-oblong, lightly retrorse, rather obtuse, with rounded angle in the middle of the posterior margin; mid-lobe much larger, obovate-subrotund with strongly recurved sides and slightly undulate margins; disc with a broad flattened basal thickening which extends into three thickened lines, with nerves densely minute-papillose. Column short, stout, lightly recurved on the back, irregularly crenate-dentate at the apex, with a pair of small angulate or auriculate appendages in front near the apex, about 7.3 mm. long.

This concept is based upon two recent collections of complete plants which appear to be referable to *E. microtos* Reichb. f. (described only from an inflorescence lacking any vegetative parts), except for the somewhat larger flowers with less distinctly spatulate more acute petals and an emarginate lip.

JUNIN: Chanchamayo Valley, at 1600 meters altitude, September, 1929, *Carlos Schunke 1114*.—LORETO: Upper Marañon River at mouth of the Santiago River, at 160 meters altitude, in rain-forest, October 15, 1924, *G. Tessmann 4301* (TYPE in Herb. Hort. Berol.).

Epidendrum minutidentatum *C. Schweinfurth*
sp. nov.

Herba mediocris, supra divaricato-ramosa. Caules vaginis laxis celati. Folia numerosa, oblonga vel elliptico-oblonga vel ovato-oblonga, obtusa et mucronata, late patentia. Inflorescentia abbreviata, subumbellata, univel triflora. Flores parvi, longe pedicellati. Sepalum dorsale oblongo-ovatum, subacutum. Sepala lateralia oblique oblongo-ovata, acuta et mucronata. Petala elliptico-oblonga vel rhombico-lanceolata, obliqua, obtusa. Labelum columnae valde adnatum; lamina concava, suborbiculari-ovata, leviter retusa, basi profunde cordata, marginibus conspicue denticulatis. Columna brevis, crassa, more generis.

Plant medium-sized, about 24 cm. or less tall. Roots fibrous, flexuous, glabrous. Stems slender, divaricately branched above, entirely or mostly concealed by loose tubular-infundibuliform sheaths which are chiefly leaf-bearing but become scarious evanescent and without blades in the lower portion of the stem and branches. Leaves small, numerous, distichous, either oblong or ovate-oblong or elliptic-oblong, apiculate at the obtuse or rounded apex, clasping at the sessile base, widely spreading, up to 3.8 cm. long and 1.25 cm. wide, minutely denticulate especially near the apex. Inflorescence a ter-

minal, subumbellate raceme, 1- to 3-flowered, the abbreviated peduncle being concealed by one (rarely two) broad spathes which are strongly conduplicate and apiculate. Pedicellate ovary slender, fusiform above, 2-2.2 cm. long. Flowers rather small, reddish brown. Sepals 3-nerved, thickened toward the apex. Dorsal sepal oblong-ovate, subacute, about 10 mm. long, 5-5.3 mm. wide, with the margins (except near the apex and base) denticulate-erose. Lateral sepals obliquely oblong-ovate, sharply acute and mucronate, about 10 mm. long, 5-5.3 mm. wide, with the dorsal margin (except near the base and apex) denticulate-erose. Petals obliquely elliptic-oblong or rhombic-lanceolate, about 8.8 mm. long and 3.7 mm. wide, obtuse, 3-nerved, with the upper margins denticulate-erose. Lip adnate to the column nearly to its apex; lamina deeply concave, simple, suborbicular-ovate or quadrate-ovate, lightly retuse at the apex, with the margins (except at the deeply cordate base) conspicuously denticulate, about 10 mm. long in greatest length and 10.2 mm. wide when forcibly expanded, with a pair of prominent complanate calli at the base. Column short and stout, dilated upward, produced on each side into a transversely subquadrate auricle, about 5.2 mm. long.

Epidendrum minutidentatum appears to be allied to the Colombian *E. viridibrunneum* Reichb. f., but its habit appears to be suberect and not creeping, the leaves not linear and acuminate and the petals not linear.

Cuzco: Prov. Quispicanchi, Marcapata, at 3100 meters altitude, "bushwood consisting of high shrubs and small trees, with many hard-leaved types," February 15-16, 1929, *A. Weberbauer* 7804 (TYPE in Herb. Field Mus. No. 605154; ISOTYPE in Herb. Ames No. 61551).

***Epidendrum minutiflorum* C. Schweinfurth sp. nov.**

Herba pusilla, epiphytica, arcuata. Caulis arcuatus, brevibus cum ramis, vaginis tubulatis evanidis omnino

obtectus. Folia pauca, filiformia, subteretia. Inflorescentiae terminales, racemosae, laxe pluriflorae. Flores parvi, subglobosi, carnosi. Sepalum dorsale ovatum, mucronatum. Sepala lateralibus oblique lateque ovata, valde acuta et mucronata, dorso carinata. Petala linearia, acuta, supra paulo latiora. Labellum columnae valde adnatum; lamina parva, ovato-cordata, subacuta, conspicue bicallosa. Columna pro flore magna et crassa, apice utrinque subquadrato-auriculata.

Plant small, slender, epiphytic, arcuate. Roots fibrous, filiform, flexuous, elongate. Stems slender, about 25 cm. or less long including the raceme, provided with numerous short branches, wholly concealed (as are the branches) by close tubular evanescent sheaths which are leaf-bearing on the upper part of the branches, the main stem often with short adventitious roots at the junction of the branches. Leaves one to four to a branch, distichous, subterete, filiform, up to 5.3 cm. long, abruptly acute or apiculate, ascending or spreading. Inflorescence a terminal raceme about 4.5 cm. or less long, with the peduncle more or less concealed by a slender conduplicate scarious spathe. Raceme rather short, loose, up to 11-flowered. Flowers very small, little open, subglobose-ellipsoid, greenish white. Sepals fleshy, concave, 3-nerved. Dorsal sepal ovate, about 3.5 mm. long and 2.2 mm. wide, acute with a dorsal mucro. Lateral sepals slightly larger than the dorsal sepal, obliquely broad-ovate, sharply acute and mucronate, dorsally carinate, shortly connate below, about 3.8 mm. long and 2.2 mm. wide. Petals linear, acute, 1-nerved, about 3 mm. long and 0.5 mm. wide above the middle, slightly dilated at the base. Lip adnate to the column nearly to its apex; lamina small, cordate-ovate, fleshy, concave, subacute, about 1.9 mm. long from a basal auricle to the apex and nearly as wide across the base; disc at base with a pair of relatively large fleshy

approximate calli. Column large and stout for the flower, extended into a transversely subquadrate auricle on each side, about 2.7 mm. long from the base to the apex of a lateral auricle. Anther flattened-hemispherical, 4-celled.

Epidendrum minutiflorum has three apparent allies. *E. Schlimii* Reichb. f. has shorter leaves, looser fractiflex racemes and a dissimilar lip. *E. Rolfeanum* Lehm. & Kränzl. has larger and less fleshy flowers and a different lip. *E. physophorum* Schltr. has a paniculate inflorescence and a dissimilar lip.

CAJAMARCA: Prov. Cutervo, "10 km. northwest of Socota, ceja de la montaña," at 3200 meters altitude, epiphytic, December 10, 1938, H. E. Stork & O. B. Horton 10140 (TYPE in Herb. Field Mus. No. 1051150).

***Epidendrum nanum* C. Schweinfurth sp. nov.**

Herba nana, saepissime valde divaricato-ramosa. Caul-es graciles, ramosi, patentes, vaginis tubulatis brevibus infra evanidis supra persistentibus et imbricantibus tecti. Folia disticha, late patentia, linearia, obtusa, minute apiculata. Inflorescentia terminalis, abbreviata, saepissime biflora. Flores parvi. Sepalum dorsale anguste lanceolatum, acutum vel acuminatum. Sepala lateralia oblique lineari-lanceolata, acuminata, dorso conspicue carinata. Petala oblique linearia, acuta. Labellum columnae valde adnatum; lamina profunde trilobata, basi leviter cordata; lobi laterales aliformes, semiovati; lobus medius porrectus, lanceolatus vel lineari-lanceolatus, acuminatus; discus basi minute bicallosus. Columna brevis, apice denticulata, utrinque conspicue unidentata.

Plant dwarf, commonly divaricately branched, in habit similar to *Epidendrum Porpax* Reichb. f. (in Bonplandia 3 (1855) 220). Roots fibrous, filiform, more or less branched, glabrous. Stems slender, usually much branched, spreading, entirely concealed by short loose tubular or infundibuliform sheaths which are commonly

evanescent below and persistent imbricating and leaf-bearing above. Leaves horizontally spreading, distichous, linear, fleshy, obtuse and minutely apiculate with a dorsal denticulate mucro, clasping at base, commonly up to 17 mm. long and 2 mm. wide, rarely as much as 28 mm. long and 3.7 mm. wide (these measurements obtained by soaking the blade in hot water), with the mid-nerve carinate beneath especially toward the apex. Inflorescence terminal, abbreviated, apparently sessile, commonly 2-flowered with each flower in the axil of a conspicuous conduplicate carinate bract. Flowers small but large for the plant, with spreading segments. Dorsal sepal narrowly lanceolate or oblong-lanceolate, about 9.5 mm. long and 2.2 mm. wide, acute or acuminate, 3-nerved, dorsally indistinctly carinate. Lateral sepals obliquely linear-lanceolate, up to 11 mm. long and 2.2 mm. wide, acuminate, 3-nerved, dorsally prominently carinate. Petals obliquely linear, up to 9.1 mm. long and 1 mm. wide in the middle, acute, 3-nerved. Lip adnate to the column nearly to its apex; lamina deeply 3-lobed near the shallowly cordate base, up to 7.9 mm. long in the middle; lateral lobes aliform, semiovate, narrowed to an obtuse apex, about 3.4 mm. long and 1.6 mm. wide below, sub-erect in natural position; mid-lobe much larger, porrect, lanceolate or linear-lanceolate, up to 6.4 mm. long and 2.1 mm. wide, acuminate to an obtuse apex, 5-nerved at base; disc with a pair of dentiform calli at the base. Column short, stout, dilated upward, up to 4 mm. long at the back, denticulate at the apex, on each side with an obliquely triangular porrect tooth.

Epidendrum nanum appears to lack close allies. In habit it resembles *E. Porpax* Reichb.f.

The collection, *Schunke 552*, consists of a single plant with simple stem and rather larger leaves and flowers than in the type collection.

JUNIN: Chanchamayo Valley, at 1800 meters altitude, November "1924-1927," *Carlos Schunke 544* (TYPE in Herb. Field Mus. No. 571602; ISOTYPE in Herb. Ames No. 61608); same locality and altitude, October "1924-1927," *Schunke 522*; Schunke Hacienda, above San Ramón, at 1800-1700 meters altitude, in dense forest, *Schunke A55*.

***Epidendrum orbiculatum* C. Schweinfurth sp. nov.**

Herba robusta sed humilis. Caulis vaginis laxis infundibuliformibus celatus. Folia disticha, late patentia, pauca, elliptico-oblonga vel ovalia (rarenter oblongo-lanceolata), infima multo minora. Inflorescentia laxe pauciflora, spatha magna conduplicata subtenta. Flores grandes. Sepalum dorsale ovato-ellipticum, late obtusum. Sepala lateralibus oblique oblongo-ovata, obtusa vel subacuta, navicularia, dorso carinata. Petala linearia, obtusa. Labellum columnae valde adnatum; lamina simplex, suborbicularis, apice valde emarginata, basi distanter et breviter bicarinata. Pollinia generis.

Plant low and stout, up to 25 cm. tall (lower part of stem incomplete in my specimen). Stem simple or with a single abbreviated branch below, straight or arcuate, entirely or nearly concealed by loose infundibuliform sheaths which are leaf-bearing except near the base, with the lower portion producing a few elongate fibrous roots which often bear small ellipsoid swellings. Leaves distichous, widely spreading, four to each stem, elliptic-oblong to oval or rarely oblong-lanceolate, up to 7.3 cm. long and 3 cm. wide (the lower blades much smaller), bilobulate at the rounded or obtuse apex, sessile at the clasping base, chartaceous in the dried specimen. Inflorescences terminal, few- (3- to 5-) flowered, very loosely racemose, subtended by a stout conduplicate spathe which is up to 3.5 cm. long and about 1.5 cm. wide and which entirely conceals the short peduncle. Flowers large, long- and slender-pedicelled, greenish or greenish brown. Dorsal

sepal ovate-elliptic, obtuse with a minute dorsal mucro, concave, 5-nerved, about 15 mm. long and 9.5 mm. wide. Lateral sepals obliquely oblong-ovate, obtuse or subacute, navicular, dorsally carinate, 5-nerved, about 17 mm. long and 10 mm. wide. Petals linear, about 16 mm. long and 1 mm. wide, obtuse, prominently 1-nerved or indistinctly 3-nerved. Lip adnate to the column nearly to its apex; lamina simple, suborbicular, conspicuously emarginate, about 22 mm. long (at the longest part) and 26 mm. wide, broadly cuneate at the base, with a pair of short widely separated fleshy keels below. Column very short and stout, broadly conical when viewed from the side, about 9 mm. long measured on the dorsal surface. Pollinia four, strongly complanate, obliquely ellipsoid.

Epidendrum orbiculatum is allied to *E. Scutella* Lindl., but has much narrower petals and prominently retuse lip.

Cuzco: Prov. Calca, Lares Valley above Mantoc, at 2400-2500 meters altitude, on rocks, flowers greenish or greenish brown, March 8, 1929, *A. Weberbauer* 7904 (TYPE in Herb. Field Mus. No. 605234; ISOTYPE in Herb. Ames No. 61545).

***Epidendrum paniculatum* Ruiz & Pav. var. linearifolium (Cogn.) C. Schweinfurth comb. nov.**

Epidendrum parviflorum Ruiz & Pavon Syst. Veg. (1798) 245.

Epidendrum gratiosum Reichenbach filius in Bonpl. 4 (1856) 215—Cogniaux in Mart. Fl. Bras. 3, pt. 5 (1898) 165.

Epidendrum gratiosum Reichb.f. var. *linearifolium* Cogniaux in Mart. Fl. Bras. 3, pt. 5 (1898) 166.

Epidendrum patulipetalum Schlechter in Fedde Reperit. Beihefte 9 (1921) 91; ex Mansfeld in Beihefte 57 (1929) t. 120, nr. 472.

An examination of what is undoubtedly isotype material of *Epidendrum parviflorum* from the Madrid Herbarium shows that this concept cannot reasonably be

separated specifically from the extremely variable *E. paniculatum*. Although *E. parviflorum* is a smaller and more delicate plant than the usual form of *E. paniculatum*, there does not appear to be any striking morphological character—either vegetative or floral—to separate it from that species. The flowers of *E. parviflorum*, however, are much smaller than those of any of the *E. paniculatum* examined or recorded, and accordingly it seems reasonable to recognize this weak and small-flowered plant as a named variety of *E. paniculatum*. Its sepals are 5 mm. long, whereas those of *E. paniculatum* range from 8.2–16 mm. in length. In addition, the variety has the base of the lip provided with a small trilobulate plate, whereas in *E. paniculatum* there are two calli which are either separate or joined. Although typically found in Peru, this small-flowered form occurs also in Ecuador.

Epidendrum gratiosum, of which I have seen a photograph and a drawing from the type specimen in the Reichenbach Herbarium, appears to be an exact counterpart of *E. parviflorum* and was described from Ruiz & Pavon material. The flowers, as described, also correspond well with those of *E. parviflorum*, and they are even said to have a trilobulate plate at the base of the lip, as shown in *E. parviflorum*.

Epidendrum gratiosum var. *linearifolium*, of which we have a photograph and a drawing of the material in the Reichenbach Herbarium which Cogniaux later made the varietal type, apparently differs from *E. gratiosum* only in having linear elongate leaves and sometimes a more branched panicle. This combination is therefore synonymous with *E. parviflorum*. However, in accordance with the Rules of Botanical Nomenclature, it is necessary, in naming this variety, to disregard the specific name, “*parviflorum*,” and to adopt the name “*linearifolium*” since it is the first varietal epithet to be used for this concept.

Epidendrum patulipetalum, of which the description is supplemented by a floral analysis made under the supervision of Dr. Schlechter, has sepals which are exactly as small as those of *E. parviflorum* (*E. paniculatum* var. *linearifolium*). As drawn, the lip is even smaller than in typical *E. parviflorum* and is thus more similar to the Ecuadorian collection (*Penland & Summers 204*) referred to *E. parviflorum*. Moreover, the two basal calli are represented as more prominent than in the Ecuadorian collection of *E. parviflorum*. Considering the known variability of the lip in this alliance, however, it seems entirely justifiable to reduce this concept.

***Epidendrum paniculatum* Ruiz & Pav. var. unguiculatum C. Schweinfurth var. nov.**

Herba pedunculo elongato plurispathato et floribus majoribus et labelli lobis lateralibus dolabriformibus et lobo intermedio distincte quadrato-unguiculato a specie differt.

Plant 80 cm. or more tall (stem broken off). Stem stout, up to 1 cm. in diameter near the base. Leaves elliptic or oblong-elliptic, up to 18 cm. long and 4 cm. wide. Inflorescence loosely paniculate; peduncle about 22 cm. long, provided with four strict oblong-lanceolate conduplicate spathes. Flowers cream-colored, larger than in the species. Dorsal sepal 18–19 mm. long, 5 mm. wide above. Lateral sepals 19.6–20 mm. long, 5.6–6 mm. wide above. Petals 18–19 mm. long, 1.2–1.5 mm. wide above. Lamina of lip about 8.7 mm. long and 16 mm. wide across the lateral lobes when expanded; lateral lobes broadly dolabriform, irregularly lobulate on the rounded outer margin; mid-lobe from a quadrate base abruptly dilated into a pair of subhorizontal lightly recurved oblong lobules, lightly retuse and sharply apiculate in the middle; disc with a pair of small rounded basal calli sur-

rounding a fleshy median ridge which extends to the apex of the lip, the median ridge being supported on each side by a shorter smaller ridge. Column about 14.2 mm. long. Pollinia four, complanate, the two outer being semilunate and the two inner smaller and lanceolate in outline.

In view of the extreme variability in the size of the flowers and in the form and lobing of the lip in *E. paniculatum*, I consider it advisable to recognize only as a well-marked variety this plant which differs from the usual form in having a relatively elongate peduncle with several conduplicate spathes, and larger flowers with the lateral lobes of the lip strongly flabellate and lobulate on the outer margin and especially in having a prominent quadrate-unguiculate mid-lobe.

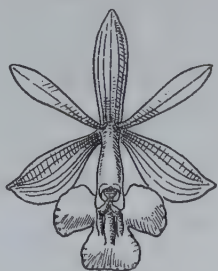
LORETO: Mishuyacu, near Iquitos, at 100 meters altitude, epiphyte in forest beside the river, May-June 1930, *G. Klug 1401* (TYPE in Herb. Field Mus. No. 624989; ISOTYPE in U. S. Nat. Herb. No. 1456335).

***Epidendrum pubiflorum* C. Schweinfurth sp. nov.**

Herba magna et robusta ut videtur. Folia disticha, oblonga vel elliptico-oblonga, apice rotundata, amplexantia. Inflorescentia terminalis, divaricato-paniculata, arcuatis multifloris cum ramis. Flores parvi, crassiores. Sepalum dorsale obovato-oblongum vel oblanceolato-oblongum, obtusum. Sepala lateralibus oblique elliptico-obovata, conspicue mucronata. Petala lineari-oblanceaolata, subacuta. Labellum columnae valde adnatum; lamina in circuitu suborbicularis, profunde trilobata, basi cordata; lobi laterales oblique dolabriformi-ovati, extus rotundati et irregulariter crenulati; lobus medius subaequalis, breviter cuneato-obovatus, apice leviter retusus; discus basi bicallosus et antice breviter tricarinatus. Columna brevis, valde dilatata.

Plant apparently large and stout (entire lower portion lacking in my specimen). Stem concealed by close tubu-

lar leaf-sheaths. Leaves distichous, oblong or elliptic-oblong, minutely bilobulate at the rounded apex, cuneate at the sessile clasping base, up to 11.5 cm. long and 2.3 cm. wide, spreading, subcoriaceous. Inflorescence terminal, consisting of a large spreading panicle of about 5 distichous arcuate, many-flowered branches which are 26.5 cm. or less long; rachis finely pubescent. Floral bracts inconspicuous, lanceolate, shorter than the short gradually dilated pedicellate ovary. Pedicellate ovary and outer surface of the sepals densely short-pubescent. Flowers small, rather fleshy. Dorsal sepal obovate-oblong or oblanceolate-oblong, obtuse and dorsally subapically mucronate, 9–10 mm. long, 3–3.2 mm. wide, 3-nerved, lightly concave. Lateral sepals obliquely elliptic-obovate, acute with a prominent dorsal mucro, 10.8–11 mm. long, 4.6–4.8 mm. wide, concave, 5-nerved. Petals linear-oblanceolate, lightly oblique, 9.5–9.9 mm. long, 1.9–2 mm. wide above, subacute, 1-nerved. Lip adnate to the column nearly to its apex; lamina suborbicular in outline, sharply 3-lobed, deeply cordate at base, about 7 mm. in greatest length and 9–9.5 mm. wide across the lateral lobes; lateral lobes spreading, obliquely dolabriform-ovate, with the rounded outer margins irregularly crenulate and the anterior margin (forming the posterior wall of the sinus) straight; mid-lobe subequal, shortly cuneate-obovate, lightly retuse, with the lobules undulate-crenate; disc bicallose at base with three short fleshy approximate keels (the central one longest) just in front. Column short, strongly dilated in front just above the base, about 5.5 mm. long on the dorsal surface, produced on each side into a pair of shallowly transverse-oblong auricles.



Epidendrum pubiflorum, flower expanded, one and one half times natural size.

Epidendrum pubiflorum is allied to *E. lanipes* Lindl., but differs in having broader sepals and dissimilar lobes of the lip and column, as well as in having shorter broader leaves.

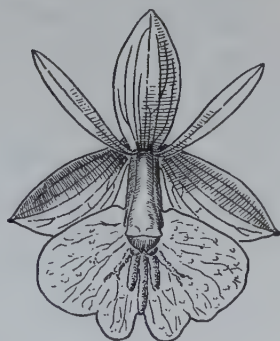
PERU: Amazonian slope of the Andes, at about 3000–3300 meters altitude, 1927, *Boyd Ehle s.n.* (TYPE in Herb. N.Y. Bot. Gard.).

***Epidendrum rectopedunculatum* C. Schweinfurth sp. nov.**

Herba robusta, elata, epiphytica. Caulis strictus, vaginis tubulatis arctis omnino celatus. Folia numerosa, disticha, saepissime ovato-lanceolata, acuminata vel subacuta, amplexentia, carnosa, patentia. Inflorescentia stricta, ramis brevibus late patentibus densifloris supra donata. Flores parvi, subcarnosi, segmentis patentibus. Sepalum dorsale obovato-ellipticum, acutum. Sepala lateralia oblique elliptico-obovata, acuta. Petala oblanceolato-lineariter falcata, obtusa vel retusa. Labellum columnae valde adnatum; lamina in circuitu transverse ovalis, carnosa, profunde emarginata, antice in medio abrupte semi-orbiculari-bilobulata, utrinque rotundata, basi bicallosa. Columna brevis, crassa, apice truncata.

Plant stout, about 52 cm. tall, epiphytic. Roots fibrous, flexuous, glabrous. Stem strict, terete, many-leaved, entirely concealed by close tubular sheaths which produce leaves except near the base. Leaves numerous, distichous, ovate-lanceolate (rarely oblong-ovate or oblong-elliptic), subacute to acuminate, subrounded at the clasping base, up to 8.8 cm. long and 2.4 cm. wide, spreading, fleshy, shining on the upper surface. Inflorescence terminal, strict, about 11.3 cm. long, with the rachis closely invested by imbricating tubular evanescent sheaths, provided above with remote abbreviated widely spreading branches which are densely flowered and commonly short-branched. Floral bracts minute, triangular-

ovate, squarrose. Flowers small, subfleshy, mignonette and flesh-red, with spreading segments. Sepals acute, 5-nerved. Dorsal sepal obovate-elliptic, up to 7.6 mm. long and 3.3 mm. wide. Lateral sepals obliquely elliptic-obovate, about 8 mm. long and 4 mm. wide. Petals oblanceolate-linear, subacute to retuse, lightly falcate, up to 7 mm. long and 1.3 mm. wide, 1- or obscurely 3-nerved. Lip adnate to the column nearly to its apex; lamina fleshy, transversely oval in outline, abruptly bilobulate in the middle with two semiorbicular lobules, broadly rounded on each side, subtruncate-cuneate at the base, up to 7 mm. long on either side of the center and 12.8 mm. wide; disc with a pair of subglobose calli at the base and three to five more or less distinct fleshy ridges in front. Column short and stout, gently dilated upward in front, up to 4 mm. long, truncate at the irregular apex. Ovary with a semiellipsoid vesicle.



Epidendrum rectopedunculatum, flower, expanded, three times natural size.

Epidendrum rectopedunculatum is closely allied to the Central American *E. pachyrachis* Ames, but differs in having larger leaves, in having an erect long-peduncled inflorescence which is provided with several remote short branches, in its dissimilar petals and in the absence of a sharp apicule in the center of the lip. This concept appears to be so similar to *E. pachyrachis*, however, that, with the aid of more material of either species, it may be found specifically inseparable.

LORETO: Vicinity of Iquitos, at 100 meters altitude, in dense forest on living tree, January to February 1937, G. Klug 10083 (TYPE in Herb. Ames No. 61553).

Epidendrum reflexilobum *C. Schweinfurth sp. nov.*

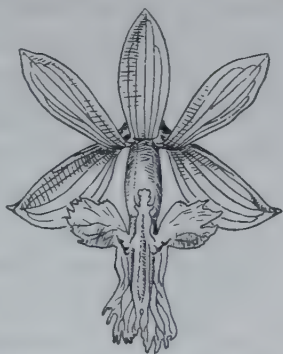
Herba elata, gracilior. Radices fibratae, elongatae. Caulis basi decumbens, vaginis tubulatis supra foliiferis omnino celatus. Folia disticha, ovato-oblonga vel oblonga, apice rotundata, basi amplexentia, carnosa ut videtur. Pedunculus elongatus, strictus, vaginis arctis tubulatis omnino tectus. Racemus terminalis, brevis, dense pluriflorus, nutans. Sepala petalaeque recurvata. Sepalum dorsale ovato-ellipticum, acutum. Sepala lateraliter oblique elliptico-oblonga, dorso carinata, acuta. Petala cuneato-spathulata, acuta. Labellum columnae valde adnatum; lamina profunde trilobata, basi cordata; lobi laterales oblique ovals, reflexi, extus irregulariter lacerato-dentati; lobus medius multo major, obovato-oblongus, profunde bilobatus; discus breviter tricarinatus. Columna brevis, supra dilatata, apice utrinque triangulari-auriculata.

Plant tall, rather slender. Roots fibrous, elongate, glabrous, whitish, mostly simple, stout for the plant. Stem erect from a short decumbent base, entirely concealed by close tubular sheaths which are leaf-bearing except near the base, about 19 cm. or less long. Leaves distichous, nine or less, ovate-oblong to oblong (rarely ovate), rounded and minutely bilobed at the apex, sessile at the clasping base, apparently fleshy, up to 5.5 cm. long and 1.5 cm. wide (much smaller below). Peduncle elongate, strict, entirely concealed by numerous close tubular scarious sheaths, about 43.5 cm. or more long. Raceme terminal, short, nodding, densely several- to many-flowered, about 4 cm. or less long. Floral bracts narrowly triangular, long-acuminate, spreading, the lower ones much the longest. Flowers small, scarlet with yellow on the lip; sepals and petals recurved. Dorsal sepal ovate-elliptic, acute, 7-nerved, 11.9–12.5 mm. long and 4.9 mm. wide. Lateral sepals obliquely elliptic-oblong, acute with a dorsal mucro, carinate, 6- to 8-nerved, about 13 mm. long

and 5 mm. wide. Petals oblanceolate or cuneate-spatulate, acute, 13.2–13.5 mm. long, 4 mm. wide, lightly oblique, 3- to 5-nerved. Lip adnate to the column nearly to its tip; lamina sharply 3-lobed, much surpassing the rest of the perianth, cordate at base; lateral lobes obliquely oval in outline, reflexed, about 6.5 mm. long, 4–5 mm. wide, irregularly lacerate-dentate on the outer margins, concave at the base; mid-lobe much larger than the lateral lobes, obovate-oblong in outline with a subquadrate claw, deeply bilobed with porrect unequal lobules which are irregularly lacerate at the apex, 8.1–10 mm. in greatest length and 7 mm. wide across the apical portion; disc with three short fleshy keels of which the central one is longest and the lateral ones with their fleshy lobulate base spread onto the lateral lobes. Column short and stout, lightly dilated above in front, extended on each side into a fleshy erect triangular auricle; clinandrium denticulate on each side. Anther semiglobose, 4-celled. Pollinia four, complanate, slender-pyriform.

Epidendrum reflexilobum is allied to *E. tricarinatum* Rolfe, but appears to differ in having scarlet and yellow, not purple, flowers, in the form of the petals and in the reflexed oval lateral lobes of the lip whose lateral keels are entire except at the base.

HUANUCO: Yanahuanca, at about 3070 meters altitude, on rocks among shrubs, flowers "scarlet except bright yellow inner and lower portions of lip," June 16–22, 1922, *Macbride & Featherstone 1290* (TYPE in Herb. Field Mus. No. 517800; ISOTYPE in Herb. Ames No. 61589).



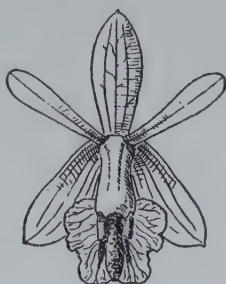
Epidendrum reflexilobum,
flower expanded, one and
one half times natural size.

Epidendrum refractoides *C. Schweinfurth sp. nov.*

Herba epiphytica, robusta. Caulis erectus, leviter fractiflexus, vaginis laxis imbricatis omnino celatus. Folia disticha, late patentia, oblongo-elliptica vel ovalia, apice rotundata, basi amplexantia rotundata. Inflorescentia terminalis, arcuata, laxiflora, laxe paniculata, ramis strictis brevibus paucifloris spatha suffultis. Flores parvi, virides, carnosii. Sepalum dorsale obovato-oblongum, apice dorso mucronatum. Sepala lateralalia oblique oblongo-obovata, apice dorso mucronata. Petala anguste cuneato-oblancheolata, obtusa. Labellum columnae valde adnatum; lamina ovato-quadrata, apice truncato leviter bilobata, basi cordata, simplex vel leviter trilobata (utrinque incisa) et crenato-dentata. Columna generis.

Plant stout, epiphytic, about 57.4 cm. or more tall. Roots fibrous, flexuous, glabrous. Stem erect but lightly flexuous, about 23 cm. high, entirely concealed by loose imbricating infundibuliform sheaths of which all but the lowermost are leaf-bearing. Leaves distichous, about eight, oval to oblong-elliptic, rounded with a minute apicule at the apex, deeply clasping at base, widely spreading up to 12 cm. long and 4.2 cm. wide (often progressively shorter below), chartaceous, with the mid-nerve carinate beneath. Inflorescence terminal, arcuate, about 48 cm. or less long, loosely paniculate with appressed short branches; peduncle up to 14 cm. long, entirely concealed by three strict conduplicate imbricating spathes which are infundibuliform below; branches of the panicle in the lower portion of the loose inflorescence, loosely 3- to 5-flowered, subtended by an infundibuliform spathe similar to those of the peduncle. Flowers small, green, fleshy. Dorsal sepal obovate-oblong, about 11 mm. long and 4.8 mm. wide, truncate-obtuse with a dorsal mucro, 3-nerved. Lateral sepals obliquely oblong-obovate, 11.8–12 mm. long and 5 mm. wide, acute by reason of a dorsal mucro,

3- or 4-nerved. Petals narrowly cuneate-oblongate, 10.5 mm. long, 2.8 mm. wide above, obtuse, 1-nerved. Lip adnate to the column nearly to its apex; lamina ovate-quadrangle in outline, deeply cordate at the base, simple or obscurely 3-lobed (lightly indented in the middle of each side), lightly retuse-apiculate in the middle of the truncate apex or shallowly bilobulate, irregularly crenate-dentate on each side especially in the middle, 7.8 mm. in greatest length and 9 mm. in greatest width near the base; disc with a pair of large fleshy complanate-ellipsoid calli at the base and with three to five fleshy ridges in front, the central ridge extending nearly to the apex. Column short, stout, strongly dilated upward in front, about 6.4 mm. long on the dorsal surface, crenate-dentate at the truncate apex.



Epidendrum refractoides, flower expanded, one and one half times natural size.

Epidendrum refractoides seems to be closely allied to the Venezuelan *E. refractum* Lindl., but differs in having paniculate inflorescences of smaller flowers with narrow petals and an indistinctly 3-lobed lip.

HUANUCO: Cani, seven miles northeast of Mito, at about 2600 meters altitude, "on tree branch in dense stream-wood," April 16-26, 1923, *J. Francis Macbride 3391* (TYPE in Herb. Field Mus. No. 584461; ISOTYPE in Herb. Ames No. 61559).

***Epidendrum Schlechterianum* Ames var. *longirepens* C. Schweinfurth var. nov.**

Herba parva, rhizomate longo distincto et foliis minimis et petalis latoribus a specie differt.

Plant small, with a long creeping flexuous rhizome formed by short successive connectives between the abbreviated stems, producing numerous fibrous adventitious roots. Stems very short, entirely concealed by the

loose flaring unjointed imbricating leaf-sheaths, about 5.8 mm. long. Leaves very small, distichous, approximate, spreading-recurved, oblong-ovate, about 7.5 mm. or less long and 4.4 mm. wide when expanded, rounded at the apex with a minutely bilobulate and mucronate tip, convex with a sulcate center, apparently very fleshy. Flowers apparently solitary, sessile, green-rose, much smaller than in the usual typical form of the species. Dorsal sepal elliptic-lanceolate or ovate-lanceolate, obtuse or subacute and apiculate, about 8.9 mm. long and 3.4 mm. wide, dorsally carinate. Lateral sepals similar to the dorsal sepal, elliptic-lanceolate or ovate-lanceolate, acute and apiculate, oblique at base with center adnate to the column, 8.7–9 mm. long and 3 mm. wide, with a prominent dorsal winged keel which is denticulate above. Petals oblong or elliptic-oblong, acute, about 8 mm. long, 2.8–3 mm. wide, obliquely adnate to the column at base. Lip adnate to the column nearly to the apex; lamina suborbicular-cordate or broadly ovate-cordate, rounded and abruptly apiculate at the apex, about 5 mm. long and 5.9 mm. wide, fleshy with finely denticulate margins. Column abbreviated, terminating on each side in a prominent obliquely rounded-subquadrate auricle, denticulate on the retuse middle portion, about 3.9 mm. long to the tip of an auricle.

The differences of this variety from the highly variable *E. Schlechterianum* are chiefly vegetative. The long creeping rhizome and small leaves are distinctly divergent. As to size, the flower is smaller than usual in the typical form, but some flowers of *E. Schlechterianum* are quite as small. The petals of the variety, however, tend to be broader and the column shorter than in the species.

LORETO: Mishuyacu, near Iquitos, at 100 meters altitude, in forest, April 1930, G. Klug 1274 (TYPE in U.S. Nat. Herb. No. 1456070; ISOTYPES in Herb. Field Mus. No. 624992 and in Herb. Ames No. 61887).

Epidendrum subreniforme C. Schweinfurth sp.
nov.

Herba mediocris, epiphytica. Caulis robustus, foliorum vaginis distichis imbricatis omnino obtectus. Folia parva, elliptica, acuta, patentia. Inflorescentiae terminales, laxae pauciflorae. Flores grandiores, viridi-flavi. Sepalum dorsale elliptico-lanceolatum, acutum. Sepala lateralia semiovalia vel oblique elliptico-lanceolata, breviter acuminata, dorso carinata. Petala lineari-oblongeolata, acuta vel subacuta. Labellum columnae valde adnatum; lamina subsimplex, in circuitu reniformis, utrinque leviter contracta, apice late rotundato leviter retusa et apiculata. Columna sursum leviter dilatata, supra utrinque auriculato-dilatata.

Plant medium-sized, about 21.5 cm. high. Roots stout, fibrous, elongate, numerous. Stem stout, simple except for one abbreviated ascending branch above, about 19.5 cm. tall, entirely concealed by leaf-bearing sheaths which are close, distichously imbricating, complanate and mostly scarious. Leaves small, elliptic, acute, sessile, clasping, spreading, up to 4.6 cm. long and 1.5 cm. wide, submembranaceous. Inflorescence terminal, abbreviated, recurved, loosely about 4-flowered. Flowers rather large, greenish yellow. Dorsal sepal elliptic-lanceolate, acute, about 19 mm. long and 6.5 mm. wide, 7-nerved below the middle. Lateral sepals semioval or obliquely elliptic-lanceolate, about 22 mm. long and 8.5 mm. wide, shortly acuminate, concave, dorsally carinate especially above the middle. Petals linear-oblongeolate, acute or subacute, about 18.3 mm. long and 3.8 mm. wide, 3-nerved. Lip adnate to the column nearly to its apex; lamina subsimple, reniform in outline, lightly contracted on each side, with the center channelled and the sides convex-spreading in natural position, lightly retuse and bluntly apiculate at the broadly rounded apex, about 12 mm. long in the middle and 25.8 mm. wide near the cordate base, ob-

scurely bicallose at the base. Column stout, gradually dilated above where it is produced into a broad subquadrate auricle on each side, about 12 mm. long from the base to the apex of an auricle.

Epidendrum subreniforme is apparently allied to the Brazilian *E. Burgeri* Schltr., but has shorter broader leaves and larger flowers with an apiculate lip.

HUANUCO: Cushi, at about 1500 meters altitude, on small tree in sun, June 19-23, 1923, *J. Francis Macbride* 4543 (TYPE in Herb. Field Mus. No. 535620).

EXPLANATION OF THE ILLUSTRATIONS

PLATE VI. EPIDENDRUM CARNOSIFLORUM *C. Schweinf.*

1, plant, one half natural size. 2, lateral sepal, two and one half times natural size. 3, dorsal sepal, two and one half times natural size. 4, petal, two and one half times natural size. 5, lip and column from side, natural position, two and one half times natural size. 6, lip and column from above, natural position, two and one half times natural size.

EPIDENDRUM LATISEGMENTUM *C. Schweinf.* 7, plant, one half natural size. 8, flower, expanded, natural size. 9, lip and column from side, natural size. 10, anther, showing cells, five times natural size. 11, pollinium, ten times natural size.

PLATE VII. EPIDENDRUM ELATUM *C. Schweinf.*

1, plant, one half natural size. 2, flower, expanded, one and one half times natural size. 3, flower from side, natural position, one and one half times natural size.

PLATE VIII. EPIDENDRUM MACBRIDEI *C. Schweinf.*

1, plant, one half natural size. 2, flower, expanded, twice natural size. 3, pollinia in situ, ten times natural size.

EPIDENDRUM LIGULIFERUM *C. Schweinf.* 4, plant, one half natural size. 5, flower, expanded, natural size.

PLATE IX. EPIDENDRUM MAGNICALLOSUM *C. Schweinf.*

1, plant, one half natural size. 2, flower, expanded, two and one half times natural size. 3, flower from side, natural position, two and one half times natural size.

EPIDENDRUM SUBRENIFORME *C. Schweinf.* 4, plant, one half natural size. 5, flower, expanded, natural size. 6, flower from side, natural position, natural size.

PLATE X. EPIDENDRUM MINUTIDENTATUM *C. Schweinf.* 1, plant, one half natural size. 2, flower, expanded, twice natural size.

EPIDENDRUM ORBICULATUM *C. Schweinf.* 3, plant, one half natural size. 4, flower, expanded, natural size.

PLATE XI. EPIDENDRUM MINUTIFLORUM *C. Schweinf.* 1, plant, natural size. 2, flower from side, natural position, five times natural size. 3, dorsal sepal, five times natural size. 4, lateral sepal, five times natural size. 5, petal, five times natural size. 6, column and lip from side, five times natural size. 7, column and lip from above, five times natural size. 8, anther from above, ten times natural size. 9, anther from below, ten times natural size.

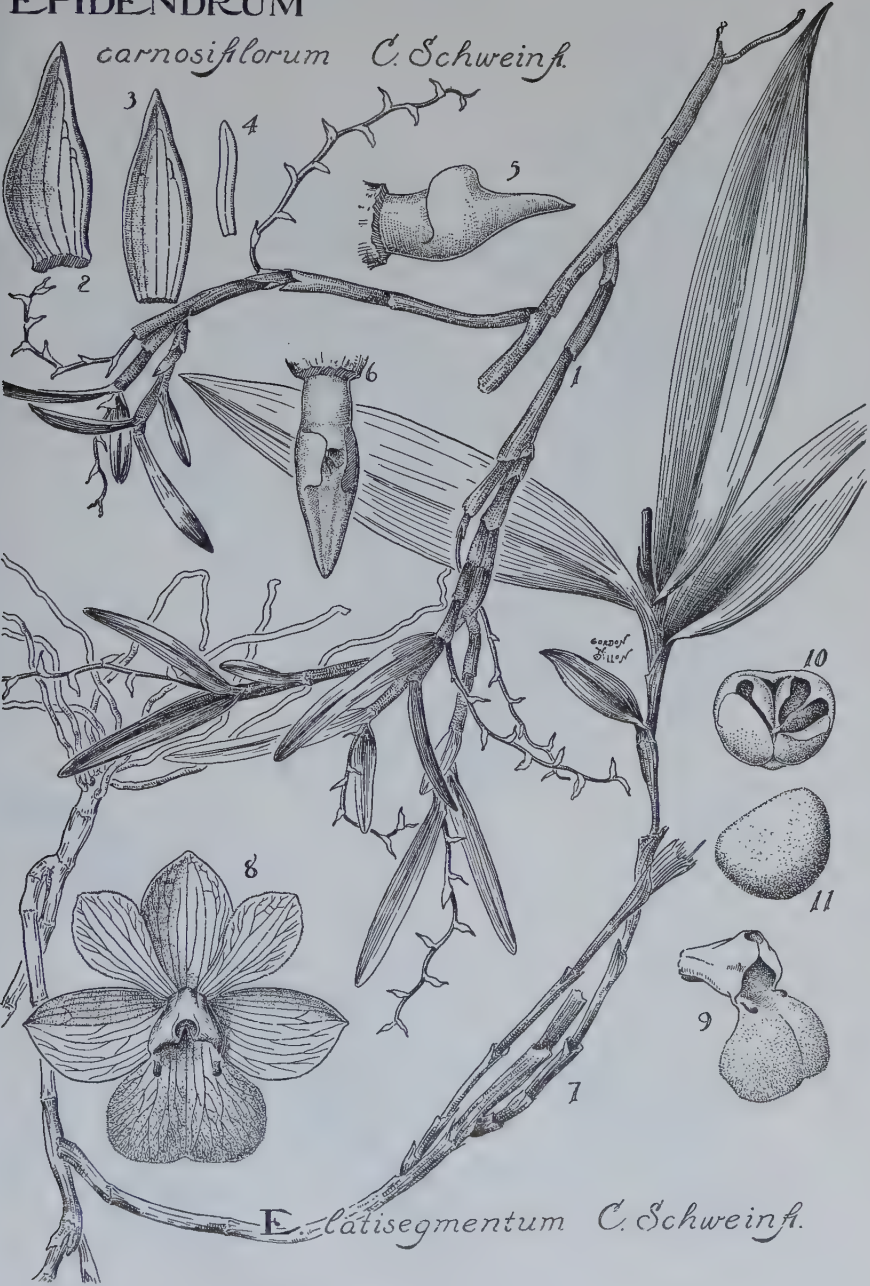
EPIDENDRUM NANUM *C. Schweinf.* 10, plant, natural size. 11, flower expanded, one and one half times natural size. 12, lip and column from side, natural position, two and one half times natural size. 13, lip, expanded, two and one half times natural size.

PLATE XII. EPIDENDRUM AQUATICOIDES *C. Schweinf.* 1, plant, one half natural size. 2, flower, from above, expanded, twice natural size. 3, lip and column from side, twice natural size.

PLATE XIII. EPIDENDRUM BIROSTRATUM *C. Schweinf.* 1, plant, one half natural size. 2, flower, from above, expanded, twice natural size.

PLATE VI

EPIDENDRUM



carnosiflorum C. Schweinf.

latisegmentum C. Schweinf.

PLATE VII

EPIDENDRUM *elatum* C. Schweinf.



EPIDENDRUM

Macbridei C. Schweinf.



E. liguliferum
C. Schweinf.

PLATE IX

EPIDENDRUM

magnicallosum C. Schweinf.



E. subreniforme C. Schweinf.

PLATE X

E. orbiculatum C. Schweinf.



EPIDENDRUM

minutidentatum C. Schweinf.

EPIDENDRUM

minutiflorum C. Schweinf.



E. nanum C. Schweinf.



EPIDENDRUM
aquaticoides C. Schweinf.



EPIDENDRUM

birostratum C. Schweinf.

